



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 101797,553A

Source: ITW

Date Processed by STIC: 10-18-04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT
MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/dbc/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

Raw Sequence Listing Error Summary

<u>ERROR DETECTED</u>	<u>SUGGESTED CORRECTION</u>	<u>SERIAL NUMBER:</u>
ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS WHICH WERE INSERTED BY PTO SOFTWARE		10/797,553A
1 <input checked="" type="checkbox"/> Wrapped Nucleic	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file	
2 <input checked="" type="checkbox"/> Wrapped Aminos	was retrieved in a word processor after creating it. Please adjust your right margin to .); this will prevent "wrapping."	
3 <input checked="" type="checkbox"/> Invalid Line Length	The rules require that a line not exceed 72 characters in length. This includes white spaces.	
4 <input checked="" type="checkbox"/> Misaligned Amino Numbering	The numbering under each 5 th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.	
5 <input checked="" type="checkbox"/> Non-ASCII	The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.	
6 <input checked="" type="checkbox"/> Variable Length	Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>.<223> section that some may be missing	
7 <input checked="" type="checkbox"/> PatentIn 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>.<223> section to be missing from amino acid sequences(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>.<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>.<223> sections for Artificial or Unknown sequences.	
8 <input checked="" type="checkbox"/> Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence (2) INFORMATION FOR SEQ ID NO X (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS (Do not insert any subheadings under this heading!) (xi) SEQUENCE DESCRIPTION SEQ ID NO X (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped Please also adjust the "(ii) NUMBER OF SEQUENCES" response to include the skipped sequences	
9 <input checked="" type="checkbox"/> Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence <210> sequence id number <400> sequence id number 000 Use of n's and/or Xaa's have been detected in the Sequence Listing Per 1.823 of Sequence Rules, use of <220>.<223> is MANDATORY if n's or Xaa's are present In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents	
10 <input checked="" type="checkbox"/> Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are Unknown, Artificial Sequence, or scientific name (Genus/species). <220>.<223> section is required when <213> response is Unknown or is Artificial Sequence	
11 <input checked="" type="checkbox"/> Use of <220>	Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 00/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)	
12 <input checked="" type="checkbox"/> PatentIn 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.	
13 <input checked="" type="checkbox"/> Misuse of n/Xaa	"n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid	



IFWO

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/797,553A

DATE: 10/18/2004

TIME: 14:23:13

Input Set : A:\797,553SeqList.txt
 Output Set: N:\CRF4\10182004\J797553A.raw

3 <110> APPLICANT: Moyle, William R.
 4 Xing, Yonga
 6 <120> TITLE OF INVENTION: Protein Knobs
 8 <130> FILE REFERENCE: Moy1-005US
 10 <140> CURRENT APPLICATION NUMBER: 10/797,553A
 11 <141> CURRENT FILING DATE: 2004-03-10
 13 <150> PRIOR APPLICATION NUMBER: PCT/US02/35914
 14 <151> PRIOR FILING DATE: 2002-11-08
 16 <160> NUMBER OF SEQ ID NOS: 66
 18 <170> SOFTWARE: PatentIn version 3.3
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 92
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Artificial
 25 <220> FEATURE:
 26 <223> OTHER INFORMATION: Artificial Sequence
 28 <400> SEQUENCE: 1

30 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 31 1 5 10 15
 34 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 35 20 25 30
 38 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 39 35 40 45
 42 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 43 50 55 60
 46 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 47 65 70 75 80
 50 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 51 85 90

54 <210> SEQ ID NO: 2
 55 <211> LENGTH: 92
 56 <212> TYPE: PRT
 57 <213> ORGANISM: Artificial
 59 <220> FEATURE:
 60 <223> OTHER INFORMATION: Artificial Sequence
 62 <400> SEQUENCE: 2
 64 Ala Pro Asp Val Cys Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 65 1 5 10 15
 68 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 69 20 25 30
 72 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 73 35 40 45
 76 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser

(PS,6)

Does Not Comply
Corrected Disks NeededPLS EXPLAIN SOURCE
OF GENETIC MATERIAL. (PS,1-5)

INVALID

RESPONSE

PLS EXPLAIN SOURCE OF GENETIC
MATERIAL.

INVALID

RESPONSE

PLS SEE ITEM #11 ON
ERROR SUMMARY SHEET. 10/18/04

RAW SEQUENCE LISTING
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Input Set : A:\797,553SeqList.txt
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77 50 55 60
80 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
81 65 70 75 80
84 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
85 85 90
88 <210> SEQ ID NO: 3
89 <211> LENGTH: 92
90 <212> TYPE: PRT
91 <213> ORGANISM: Artificial
93 <220> FEATURE:
94 <223> OTHER INFORMATION: artificial sequence
96 <400> SEQUENCE: 3
98 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Cys Gln Glu Asn Pro
99 1 5 10 15
102 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
103 20 25 30
106 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
107 35 40 45
110 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
111 50 55 60
114 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
115 65 70 75 80
118 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
119 85 90
122 <210> SEQ ID NO: 4
123 <211> LENGTH: 92
124 <212> TYPE: PRT
125 <213> ORGANISM: Artificial
127 <220> FEATURE:
128 <223> OTHER INFORMATION: artificial sequence
130 <400> SEQUENCE: 4
132 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Cys Pro
133 1 5 10 15
136 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
137 20 25 30
140 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
141 35 40 45
144 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
145 50 55 60
148 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
149 65 70 75 80
152 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
153 85 90
156 <210> SEQ ID NO: 5
157 <211> LENGTH: 92
158 <212> TYPE: PRT
159 <213> ORGANISM: Artificial
161 <220> FEATURE:
162 <223> OTHER INFORMATION: artificial sequence

✓ SAME
errors

✓ P/S
✓ See item #
11 on error
✓ Summary
Sheet.

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/797,553A

DATE: 10/18/2004
TIME: 14:23:13

Input Set : A:\797,553SeqList.txt
Output Set: N:\CRF4\10182004\J797553A.raw

✓ SAME
✓ PROT

164 <400> SEQUENCE: 5
166 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
167 1 5 10 15
170 Cys Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
171 20 25 30
174 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
175 35 40 45
178 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
179 50 55 60
182 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
183 65 70 75 80
186 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
187 85 90
190 <210> SEQ ID NO: 6
191 <211> LENGTH: 92
192 <212> TYPE: PRT
193 <213> ORGANISM: Artificial
195 <220> FEATURE:
196 <223> OTHER INFORMATION: artificial sequence
198 <400> SEQUENCE: 6
200 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
201 1 5 10 15
204 Phe Phe Ser Gln Pro Cys Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
205 20 25 30
208 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
209 35 40 45
212 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
213 50 55 60
216 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
217 65 70 75 80
220 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
221 85 90
224 <210> SEQ ID NO: 7
225 <211> LENGTH: 92
226 <212> TYPE: PRT
227 <213> ORGANISM: Artificial
229 <220> FEATURE:
230 <223> OTHER INFORMATION: artificial sequence
232 <400> SEQUENCE: 7
234 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
235 1 5 10 15
238 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Cys Cys Met Gly Cys Cys
239 20 25 30
242 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
243 35 40 45
246 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
247 50 55 60
250 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
251 65 70 75 80

RAW SEQUENCE LISTING
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Input Set : A:\797,553SeqList.txt
Output Set: N:\CRF4\10182004\J797553A.raw

254 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
255 85 90 *(Circles around Cys, Tyr, Tyr, His, Lys, Ser)*

258 <210> SEQ ID NO: 8
259 <211> LENGTH: 92
260 <212> TYPE: PRT
261 <213> ORGANISM: Artificial
263 <220> FEATURE:
264 <223> OTHER INFORMATION: artificial sequence
266 <400> SEQUENCE: 8
268 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Cys Gln Glu Asn Pro
269 1 5 10 15 *(Circles around Cys, Pro, Glu, Cys, Thr, Cys, Gln, Glu, Asn, Pro)*

272 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
273 20 25 30
276 Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
277 35 40 45
280 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
281 50 55 60
284 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
285 65 70 75 80
288 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
289 85 90
292 <210> SEQ ID NO: 9
293 <211> LENGTH: 92
294 <212> TYPE: PRT
295 <213> ORGANISM: Artificial
297 <220> FEATURE:
298 <223> OTHER INFORMATION: artificial sequence
300 <400> SEQUENCE: 9
302 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
303 1 5 10 15 *(Circles around Cys, Pro, Glu, Cys, Thr, Leu, Gln, Glu, Asn, Pro)*

306 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
307 20 25 30
310 Phe Ser Cys Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
311 35 40 45
314 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
315 50 55 60
318 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
319 65 70 75 80
322 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
323 85 90
326 <210> SEQ ID NO: 10
327 <211> LENGTH: 92
328 <212> TYPE: PRT
329 <213> ORGANISM: Artificial
331 <220> FEATURE:
332 <223> OTHER INFORMATION: artificial sequence
334 <400> SEQUENCE: 10
336 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
337 1 5 10 15 *(Circles around Cys, Pro, Glu, Cys, Thr, Leu, Gln, Glu, Asn, Pro)*

*VSAME
ERRORS*

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TIME: 14:23:13

Input Set : A:\797,553SeqList.txt
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✓ SAME
 ✓ ERRORS

340 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 341 20 25 30
 344 Phe Ser Arg Ala Cys Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 345 35 40 45
 348 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 349 50 55 60
 352 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 353 65 70 75 80
 356 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 357 85 90
 360 <210> SEQ ID NO: 11
 361 <211> LENGTH: 92
 362 <212> TYPE: PRT
 363 <213> ORGANISM: Artificial
 365 <220> FEATURE:
 366 <223> OTHER INFORMATION: artificial sequence
 368 <400> SEQUENCE: 11
 370 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 371 1 5 10 15
 374 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 375 20 25 30
 378 Phe Ser Arg Ala Tyr Cys Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
 379 35 40 45
 382 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 383 50 55 60
 386 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 387 65 70 75 80
 390 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 391 85 90
 394 <210> SEQ ID NO: 12
 395 <211> LENGTH: 92
 396 <212> TYPE: PRT
 397 <213> ORGANISM: Artificial
 399 <220> FEATURE:
 400 <223> OTHER INFORMATION: artificial sequence
 402 <400> SEQUENCE: 12
 404 Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
 405 1 5 10 15
 408 Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
 409 20 25 30
 412 Phe Ser Arg Ala Tyr Pro Cys Pro Leu Arg Ser Lys Lys Thr Met Leu
 413 35 40 45
 416 Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
 417 50 55 60
 420 Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
 421 65 70 75 80
 424 Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
 425 85 90
 428 <210> SEQ ID NO: 13

The type of errors shown exist throughout
 the Sequence Listing. Please check subsequent
 sequences for similar errors.

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/18/2004
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:56; Xaa Pos. 1,8,10

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27
Seq#:28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51
Seq#:52,53,54,55,56,57,58,59,60,61,62,63,64,65,66

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/797,553A

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Input Set : A:\797,553SeqList.txt

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L:2208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:0